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Technical Cooperation for National Nuclear Programme

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Technical Cooperation
TRAINING

Designing IAEA Technical Cooperation Projects using the Logical Framework Approach

A Quick Reference Guide




http://tc.iaea.org

Contents

1. INTRODUCTION

This quick reference guide is designed to support the project design phase of the technical cooperation (TC) programme cycle. It focuses on the transition from project concepts to Project Documents. The IAEA's TC programme uses the logical framework approach (LFA), which is applied by virtually all multilateral and bilateral agencies dealing with technical cooperation programmes and projects. This analytical approach is applied at varying levels of detail at each stage of the TC programme process, but is at its most detailed in the development of Project Documents.

This reference guide is designed for the use of Member State counterparts and institutions, as well as IAEA staff responsible for the preparation of TC Project Documents, and for project implementation and monitoring.

Training workshops are available to support this guide. These workshops provide opportunities for additional and more in-depth understanding of how the LFA is applied within the context of the IAEA's TC programme.

The guide replaces the 1997 edition of Planning and Designing IAEA Technical Cooperation Projects: Guidelines. It complements the material on project design and implementation already available on the Programme Cycle Management Framework (PCMF) IT platform and in the Technical Cooperation Operations Manual.

2. THE IAEA's TECHNICAL COOPERATION PROGRAMME: CONTEXT

The IAEA's statutory mandate for technical cooperation

The IAEA's statutory mandate "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world" is principally carried out through the mechanism of the TC programme. As a scientific and technical organization, the IAEA contributes to the achievement of sustainable development goals in Member States through the peaceful application of nuclear science and technology within a wider development context. A logical assessment of this context is essential in order to facilitate the linkages and partnerships that will ensure maximum programme impact.

The technical cooperation framework: Key policy documents

The design and management of the technical cooperation programme is guided by various IAEA policy documents. The key documents are:

a) The IAEA Statute;

b) The Revised Guiding Principles and General Operating Rules to Govern the Provision of Technical Assistance by the IAEA (INFCIRC/267);

c) The IAEA Medium Term Strategy 2006–2011 (GOV/2005/8) (MTS);

d) The Technical Cooperation Strategy: The 2002 Review (GOV/INF/2002/8/Mod1) (TCS);

e) The Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the IAEA (RSA);

f) General Conference TC resolutions and Board decisions, which provide the guidance of Member States on a continuous basis.

Various key principles are derived from these policy documents, which guide the way TC activities are designed and managed.

Identifying national priorities: The Country Programme Framework

The Country Programme Framework (CPF) provides a frame of reference for TC between a Member State and the IAEA for the medium term (4–6 years). The CPF helps to ensure that a country's TC programme and its individual projects are effectively focused on agreed national needs and priorities within the overall framework of that Member State's national plan for the use of nuclear related technology. It is based on identified national priorities, reflecting national development plans, regional priorities and the country's development aims in specific sectors, taking the relevant United Nations Millennium Development Goals into account.

Identifying regional priorities: Agreements, strategies and frameworks

In a like manner, at the regional level where regional priorities are determined within regional or cooperative agreements, regional programme frameworks or strategies generally provide the frame of reference for identifying regional TC projects. Some regional projects may also originate outside regional or cooperative agreements.

Partnerships and the United Nations Development Assistance Framework

The IAEA relies on collaboration with numerous partners to promote peace and development through the peaceful application of nuclear science and technology. At the global level, such partners include research, development and training institutions that participate in the transfer of knowledge and technology through the TC programme as well as agencies of the United Nations system and other international organizations operating cooperation or development programmes. At the national level, development partners normally include other United Nations organizations, government agencies and counterpart institutions, as well as non-governmental organizations that provide input to the programme or project, or disseminate its results to end users. Primary partners are national technical, scientific and regulatory authorities, as well as development authorities.

The IAEA also participates in the United Nations Development Assistance Framework (UNDAF) in a number of Member States. UNDAF is a strategic programme planning framework at the country level. It lays the foundation for cooperation among the United Nations organizations, government and other development partners through the preparation of a complementary set of programmes and projects.

3. TECHNICAL COOPERATION IN THE IAEA: ROLES, PROCESS AND QUALITY

Roles and responsibilities

The TC programme is a 'one house' effort that mobilizes most of the IAEA organization to deliver high quality cooperation and assistance to Member States through the programme mechanism. The programme is developed and implemented by the Secretariat in consultation with Member States, in line with the principle of shared responsibility (Fig. 1). The programme is needs based, and is developed through a consultative process with all programme stakeholders to identify development needs, gaps and priorities in which nuclear technology has a relevant and competitive role. National projects are designed by the counterparts and Member States; regional projects are designed by a lead country from among the Member States in that region.

Member States and their governments and institutions should exercise full and effective leadership over their specific development processes. This includes setting goals, national policies and strategies, and implementing and coordinating all development actions. Furthermore, institutions in Member States require financial resources, qualified human resources and other types of support from other local institutions, as well as government policies that are conducive to a favourable working environment. Meeting these conditions fulfils a central criterion: all TC projects must address an area of real need in which there is a national programme enjoying strong government commitment and support. This also applies to regional projects: there must be strong regional or sub-regional commitment. The IAEA is responsible for developing and implementing projects designed to enable counterparts in Member States to overcome constraints to the identification, formulation and implementation of their own development programmes or projects.

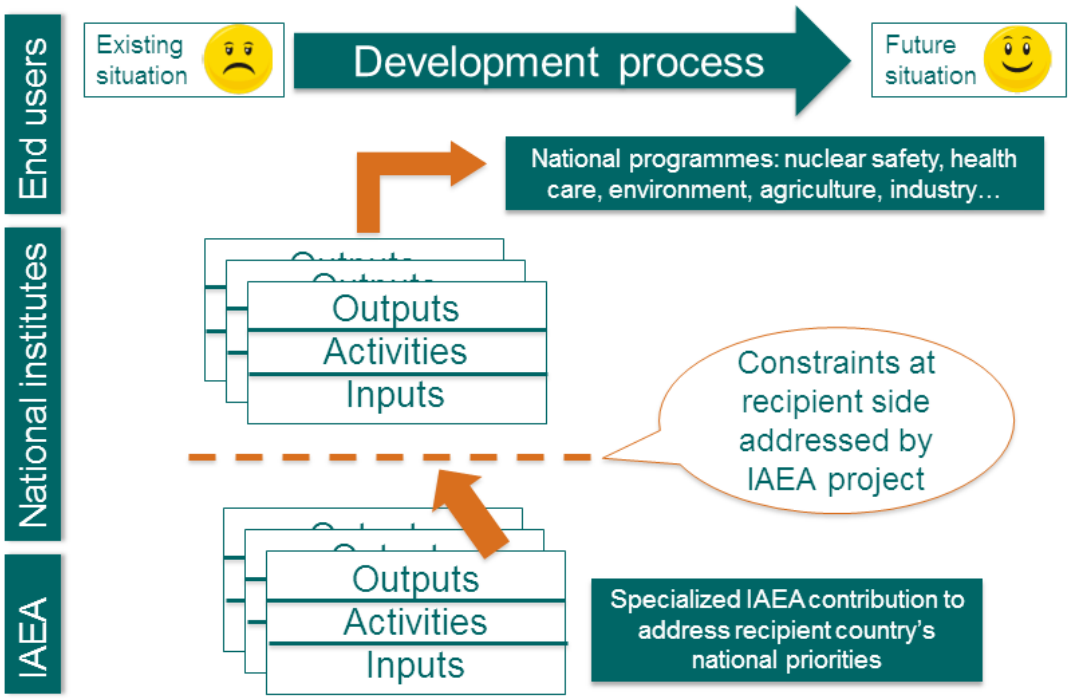

Fig. 1. The TC programme: A shared responsibility.

Planning and designing the technical cooperation programme

The TC programme is prepared over a two year period of continuous dialogue between the IAEA Secretariat and Member States. Country programmes are prepared on the basis of upstream work that may include country fact-finding missions, support for the preparation of a CPF, early engagement of potential partners and pre-project assistance.

Member States submit Country Programme Notes (CPNs) that contain an overview of the programme, details of the consultative process followed to identify potential projects, links with country priorities and an overview of the national regulatory infrastructure (Fig. 2). The CPN also lists project concepts in order of priority. These concepts are prepared by Member States according to guidelines issued by the Secretariat and are in line with the national CPF, any relevant regional agreements or strategies, and the TCS. The Secretariat provides feedback on individual CPNs to Member States.

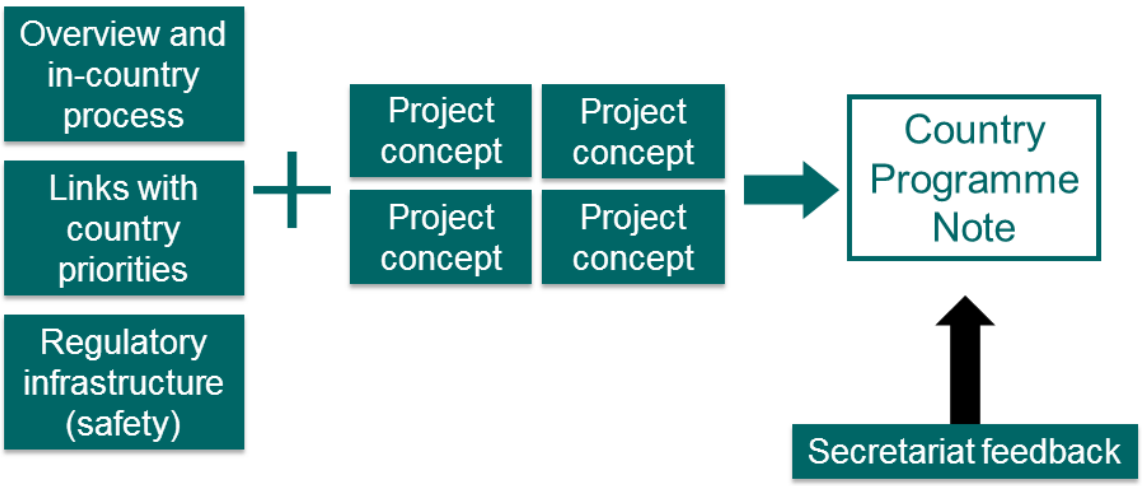

Fig. 2. Country Programme Note content.

The regional and interregional components of the TC programme are also prepared on the basis of regional and interregional Programme Notes and project concepts (Fig. 3). Project concepts are usually developed into full Project Documents. National, regional and interregional Project Documents, together with national and regional overviews, are combined to create the IAEA's biennial TC programme.

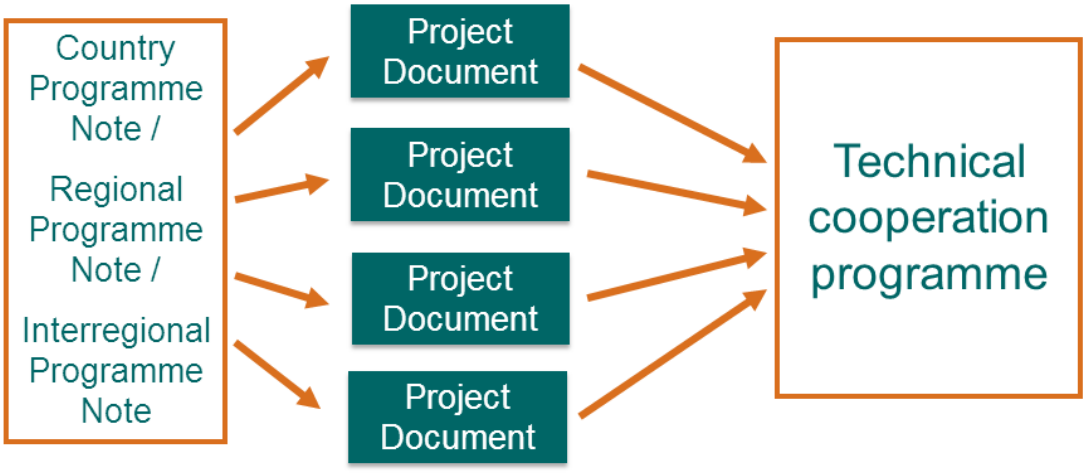

Fig. 3. From Programme Note to TC programme.

This quick reference guide focuses on translating project concepts into Project Documents.

Technical cooperation projects: Definition and project types

A project is an undertaking with a specific objective that addresses an identified problem or a gap in development in a specific area. It does so through a set of related activities leading to planned outputs and outcomes, hence contributing to the achievement of the objective. A project has a defined time period with start and end dates, an allocation of resources, and defined roles and responsibilities for the project team and other stakeholders. All IAEA TC projects are planned and designed following the LFA, described in Section 4. A TC project can be national, regional or interregional, based on its geographical scope:

- National projects focus on the development needs and priorities of individual Member States.
- Regional projects seek to achieve greater implementation efficiency or to improve effectiveness by addressing common objectives in multiple Member States within the same region in a consolidated manner. Regional projects utilize basic national capabilities to achieve common objectives by enhancing human resources through group activities, distance learning materials, technical networking, integrated expert missions, technical cooperation among developing countries (TCDC) and in-kind contributions of host facilities. There are two types of regional project:
    - Those proposed by the IAEA or a group of Member States in response to the expressed needs of several Member States in a region;
    - Those proposed by Member States in a region collaborating within a Regional/Cooperative Agreement.
- Interregional projects serve the common needs of several Member States in different geographical regions, where cooperation across regions is necessary to achieve expected outcomes. They can be trans-regional or global in scope, focused on capacity building or on joint activities with other organizations.

The project cycle

Project planning and design is part of the *project cycle* (Fig. 4), a process involving the following four stages:

- Project identification;
- Project planning and design;
- Project implementation and monitoring;
- Project evaluation.

Analysis is carried out using the LFA during each stage, at varying levels of detail.

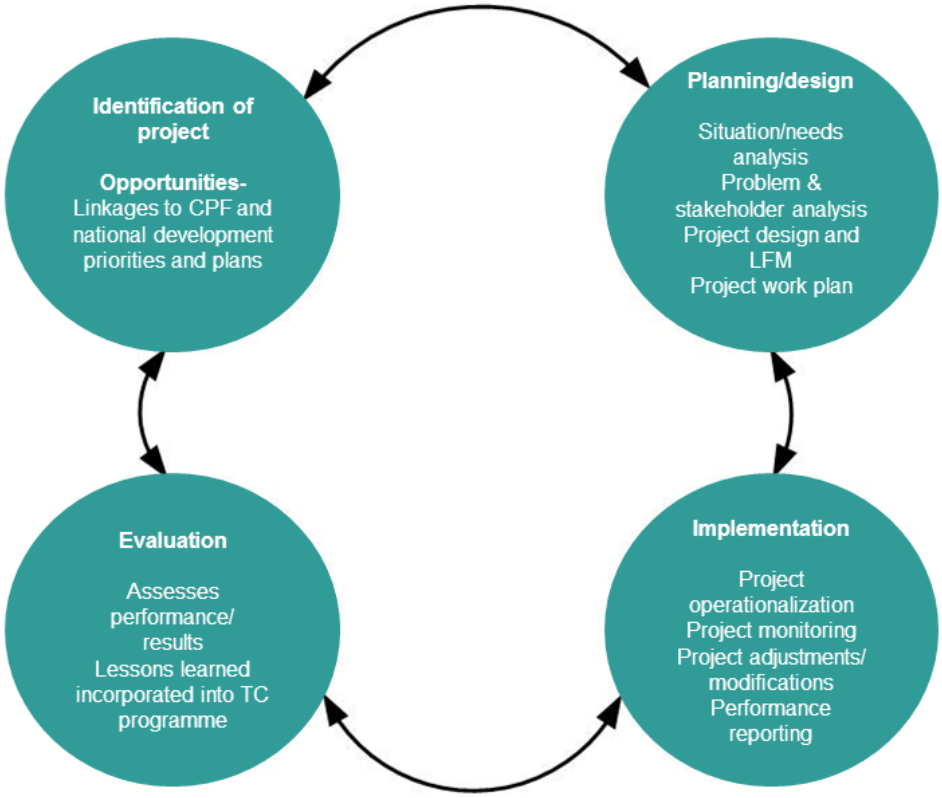

Fig. 4. The TC project cycle.

Quality in technical cooperation: Key criteria

The IAEA TC programme and its constituent projects must meet quality criteria. These include relevance, ownership, sustainability, effectiveness and efficiency.

Relevance is the degree to which project objectives are consistent with end user requirements, country needs and partner policies. This typically includes needs stated in the CPF, UNDAF or other government strategy declarations. Retrospectively, the question of relevance often becomes a question as to whether the objectives of an intervention or its design are still appropriate, given changed circumstances.

Ownership is demonstrated when Member States exercise effective leadership over their programmes and projects.

Sustainability refers to the continuation of benefits after the completion of a programme or project, the probability of continued long term benefits, or the resilience to risk of the net benefit over time.

Effectiveness is the extent to which programme/project objectives were achieved, or are expected to be achieved, taking into account their relative importance. It is also used as an aggregate measure of (or judgement on) the merit or worth of an activity, that is, the extent to which an intervention has attained, or is expected to attain, its major relevant objectives, efficiently, in a sustainable fashion, and with a positive institutional development impact.

Efficiency is a measure of the productivity of the implementation process and how economically resources (funds, expertise, time, etc.) are converted into results. Efficiency answers the question, Could the same results have been attained at a lower cost?

4. THE LOGICAL FRAMEWORK APPROACH

The logical framework approach: An introduction

The LFA is a widely adopted planning methodology. It is used by virtually all multilateral and bilateral agencies dealing with technical cooperation.

The LFA helps stakeholders to think through and analyse the 'logic' of a project in a systematic and structured way, first by conducting a detailed analysis of a number of elements, and second by relating the results of these analyses to each other and to the overall project goal. This ensures a sound project proposal and a high quality project. The LFA provides a project structure in which major components are explicitly and clearly interrelated, and interrelationships are clarified. The LFA plays a particularly critical role in project planning and design, but it can also be used throughout the project cycle, including during monitoring and evaluation.

The LFA is essentially a sequence of analytical steps comprising a situation analysis that reviews project context and relevance; a stakeholder analysis that covers counterpart mandate and vision, end users and any other organizations or group or institution having an interest or being affected by the project; a problem analysis that examines the problem in detail from the perspective of different stakeholders; and finally an objectives analysis where the project team decides on the scope of the project (see Fig. 5). On the basis of these analyses, the project team constructs a logical framework matrix (LFM) that summarizes the project and shows the logical linkages between the project elements. This is an iterative process of testing, review and validation that then continues in the preparation of a suitable work plan. The LFA steps and the LFM elements are explained in this section.

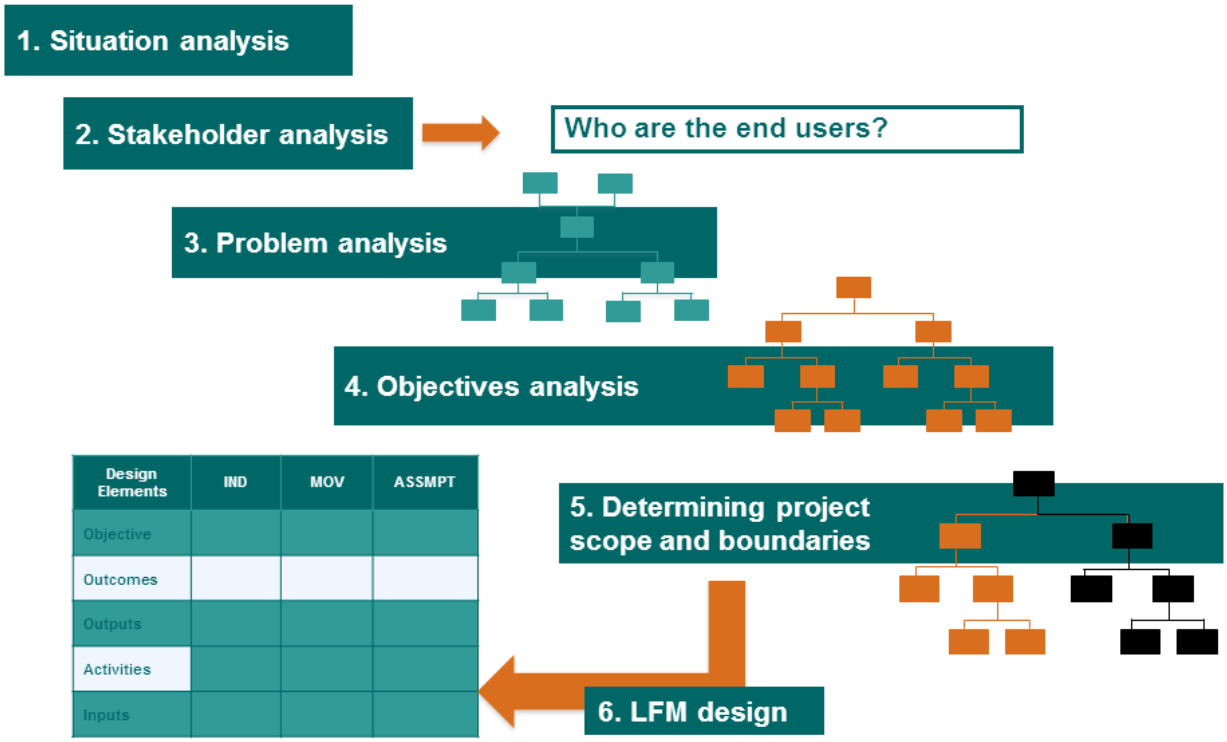

Fig. 5. The logical framework approach: A step-by-step overview.

Applying the LFA has several additional advantages. A key advantage is that it creates a dialogue between the main project stakeholders, helping to clarify their roles during project implementation, in particular with regard to how they can ensure project sustainability and maximize results. This dialogue among stakeholders also establishes and expands ownership of the project. Another critically important advantage is that applying the LFA clarifies both the project objective and what the project can realistically achieve. This supports a better understanding of how the project will complement other projects with the same or similar objectives. Thus, the approach facilitates project formulation and lays the foundation for a successful project. A good project design will anticipate possible developments during the project implementation phase, and will thus contribute to smoother implementation.

The LFA can be used in a flexible manner according to the context and scope of the project. While it is commonly used in major complex projects — for example, it is possible to organize a 3–4 day project design workshop for all project stakeholders, using the LFA to gain a common understanding of and common agreement on all aspects of the project — it can also be used in small groups or even by an individual stakeholder thinking though a project's logic.

Applying the logical framework approach: The project design steps

During the design phase of the TC programme cycle, the project concept is developed into a Project Document that includes the following sections:

- Project background and justification;
- Project description;
- Implementation strategy, arrangements and monitoring;
- Budget and work plan;
- LFM (see the template in Appendix II of this publication).

Using the LFA, the project is designed systematically, using a logical thought process. The process comprises the following steps:

(1) Situation analysis;

(2) Stakeholder analysis;

(3) Problem analysis;

(4) Objectives analysis;

(5) Determination of the project scope and boundaries;

(6) Design of the LFM.

Preliminary situation analysis, stakeholder analysis and problem analysis should have been carried out in the CPF and/or during the concept phase. During the design phase, these areas are examined in more detail. The steps are briefly explained below.

Step 1: Situation analysis

Planning and designing a project that addresses the real needs of target groups or users can only be achieved on the basis of a full and accurate analysis of the existing situation.

A good situation analysis:

- Defines the scope, context and causal relationships between factors influencing the problem;
- Defines *what* the problem is, *who* is affected (taking into account differences between men and women) and *how*, and *where* the problem is located.

A thorough analysis of the situation and the sector involved helps to reveal internal and external factors that might affect the achievement of the project's objective. A situation analysis also examines the prevailing legal and regulatory frameworks; institutional shortcomings; and technological, safety and thematic issues. Some of this information may already be available in the CPF or in reports of previous IAEA projects. Additional information may be required, to provide a thorough understanding of the context of the project.

Step 2: Stakeholder analysis

A stakeholder analysis identifies the parties involved in or affected by the issue (taking due account of gender considerations), as these will be the end users, beneficiaries, sponsors or partners in the process of solving the problem. It will gain their support for, and participation in, the project from the earliest possible moment.

Stakeholder analysis is the first step in building effective partnerships and ensuring that development plans are accurate, relevant and usable. It is important to know who has an interest in different project activities. Based on the analysis, a strategy for each stakeholder can be thought out, ensuring that the stakeholder is brought into the project at the right time for the right purpose.

It is important to engage stakeholders early in a project, as this provides an opportunity for everyone to participate and contribute to the project's design, thereby broadening ownership, leading to smooth implementation and ultimately to greater project benefits. Access to expected benefits is a key understanding that should be reflected in the design in terms of ease of use, accessibility, satisfaction, etc.

Step 3: Problem analysis

When designing a project, the project team must analyse the situation carefully to identify the major *problems*, their *causes* and their *effects*.

A systematic way of doing this is by creating a 'problem tree'. The value of the problem tree increases with the detail and accuracy of the information available on the causes and effects of a problem. In developing the problem tree, note that the causes must be stated as 'negatives' that can be demonstrated, rather than as the absence of a solution. This emphasizes the importance of conducting technical, economic or social studies as part of problem and stakeholder analysis when the necessary information does not exist. This may also help in creating baseline data. Activities that are likely to produce negative environmental effects (See Appendix I, 2.5.1) may require further analysis in cases of necessary mitigation.

Example of a problem tree

Figure 6 shows a simplified example of a problem tree. The example refers to a project to help a Member State to improve its energy planning.

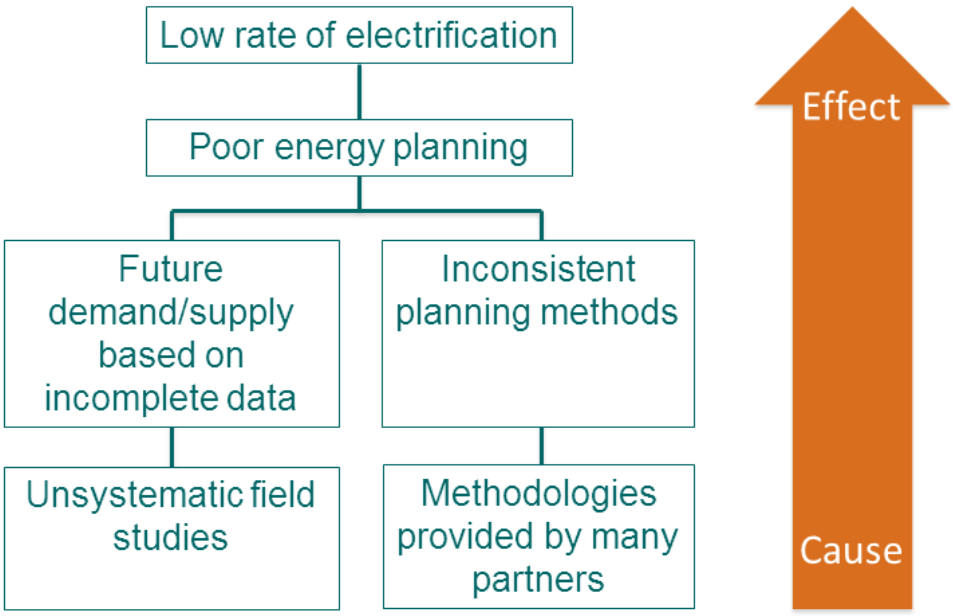

Fig. 6. Example of a problem tree.

Step 4: Objectives analysis

Once problems have been identified, general project objectives can be developed in response.[1] From there, solutions to meet the objectives can be identified and explored. This is done using an 'objective tree', a visualization of a desired future positive state. The construction of an objective tree often begins with reformulating each element of the problem tree as a statement of a positive desirable state, as shown in Fig. 7.

[1] Objectives are understood in the general sense of the word to include all the various goals, objectives and results that are hoped for.

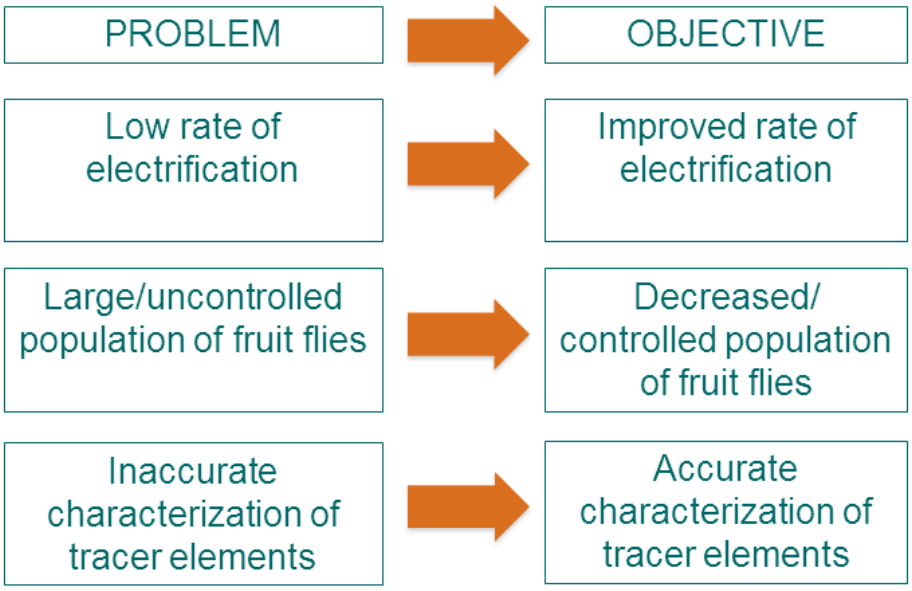

Fig. 7. From a problem tree to an objective tree.

The *cause–effect* relationships identified in the problem tree are converted into *means–ends* relationships in the objective tree. This means that causes are reformulated as means that lead to ends. A simplified example of an objective tree is given in Fig. 8.

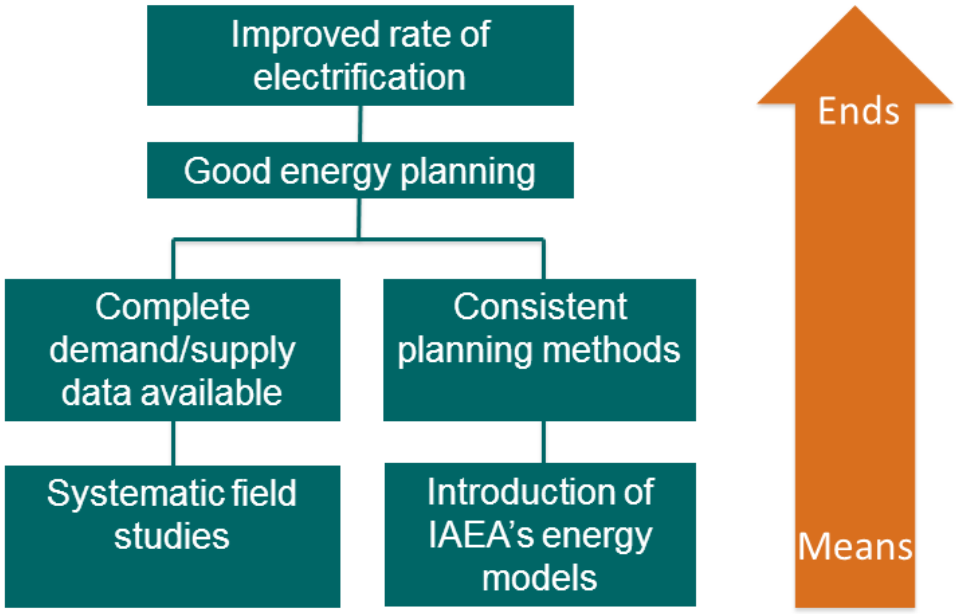

Fig. 8. Example of an objective tree.

Step 5: Determination of the project scope and boundaries

Once the objective tree is complete, it is examined to identify likely points of intervention. The determination of a project from among various options is called alternatives analysis. Based on the complexity of the problem and objectives analysis, the project team carries out the alternatives analysis to determine the scope and boundaries of the project. This is particularly important when

part of the problem or objectives would or could be addressed through other projects supported by other development partners (e.g. Food and Agriculture Organization of the United Nations, World Health Organization).

In some cases, the entire objective tree may represent a single project size intervention, while in others it may highlight two or more alternative 'projects'. Alternatives need to be further analysed in order to prepare a project design. Project teams may consider the following factors when taking a decision:

- Probability of success;
- Cost–benefit ratio;
- Skills and specialization of the organization;
- Macro policy and political feasibility;
- Risk analysis and management planning;
- Activities or plans of other projects/organizations already operating in the area;
- Social and environmental risks;
- Time horizon and sustainability;
- Resources available.

Consideration of these factors leads to identification of the assumptions and risks that will affect the project. These must be identified before an LFM can be completed.

Step 6: Design of the logical framework matrix

The objective tree is then used to define the elements of an individual project LFM. The LFM provides a consistent schematic that ensures that all factors essential for project success are addressed. Furthermore, it helps to verify the project design logic, revealing inconsistencies if, for example, an objective is misconceived or badly chosen, or if the causal linkages are not logical. If applied consistently, the LFM assists in reviewing and improving design quality, thus improving the chances of achieving the intended effect. Figure 9 shows how to move from a problem tree to an objective tree to the basic LFM design elements.

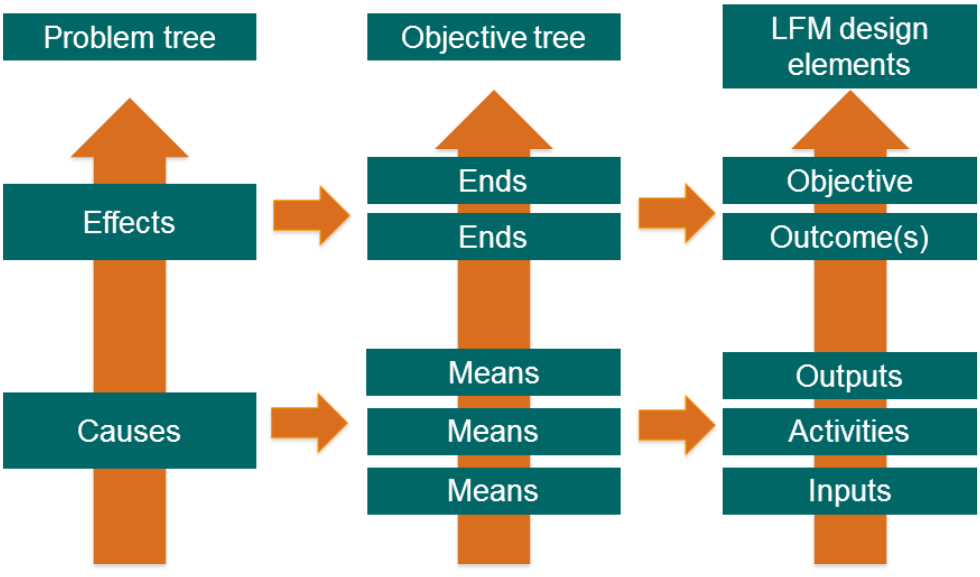

Fig. 9. From a problem tree to an objective tree to LFM design elements.

Project design elements[2]

The project design contains the following specific elements: project objective, outcomes, outputs, activities and inputs. It establishes linkages between these elements by *logical cause–effect relationships*.

Objective

The objective of a project reflects the project's achievement in terms of its particular contribution towards a long term goal. The goal is not attained by the project's achievement alone, but requires the contributions of other programmes or projects.

Outcomes

An outcome is the planned or achieved medium term result of a programme or project, achieved through the collective effort of stakeholders and partners. It represents changes in conditions that occur after the achievement of outputs. Outcomes are normally achieved at the completion of a project. Assessment of the achievement of outcomes takes place at the completion of a project, either immediately thereafter or after a reasonable lapse of time, when the project effects start to emerge. The time-frame for attaining outcomes may vary from project to project based on the type of intervention and the particular country context.

Outputs

An output is the product and/or service that results from the completion of activities within a programme or a project. It is a short term result. The output must lead to achievement of the project outcomes. It can also be viewed as a tangible short term result produced during project implementation, for which the project is held directly accountable and for which it is given resources.

Activities

Activities are actions taken or work performed to convert inputs, such as expert missions, fellowships, scientific visits, training courses, field procurement and staff work, into specific outputs.

Inputs

Inputs are the the financial, human, material, technological and information resources provided for and used in a programme or project. These resources are needed in sufficient quantity and quality, and in a timely manner to carry out activities of the project.

Building the logical framework matrix

Once a project's LFM design elements have been identified, their causal relationship, as well as indicators, means of verification of these indicators, and the assumptions or risks (which will already have been considered when determining the project scope and boundaries) that may influence success or failure, must be set out clearly in relation to each other.

A complete LFM has four columns (Fig. 10): column I constitutes the project design; column II outlines the performance indicators used to assess progress and performance; column III indicates the means of verifying the indicators; and column IV notes the main assumptions that have to be in place for the project to achieve the desired results (see Appendix II).

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[2] More detail on the content of each project design element, together with guiding interpretation, is given in Appendix I.

	I	II	III	IV
Objective				
Design elements	Narrative	Indicators	Means of verification	Assumptions
Outcomes				
Outputs				
Activities				
Inputs				

Fig. 10. The logical framework matrix.

Indicators

Project performance indicators are quantitative or qualitative variables that provide a simple and reliable means to measure achievement, or to capture results fully or partially generated by a programme or project. Thus the indicators facilitate comparison of the actual performance of a programme or project against the planned performance. An indicator should have SMART (specific, measurable, achievable, relevant and timely/trackable) characteristics, so that the planned or achieved result can be described in terms of quality, quantity and timeliness.

Progress in performing project activities, delivering inputs and producing outputs leading to the achievement of outcomes is monitored by counterparts and project managers on a continuous basis. Any deviation from the established plan of action or gap in the achievements reflected by these indicators is addressed during the course of implementation.

Means of verification

Means of verification are the sources of information necessary to verify the accomplishment of indicators. They should include the information that is to be made available, in what form, by whom and when.

Baseline data, implementation records and progress reports are necessary to monitor and evaluate the achievement of the project objective.

Assumptions

Assumptions are potential factors (internal or external) that could affect the progress or success of a programme or project. Mostly, an assumption is a condition that needs to be present for the project to produce the intended result. An assumption that needs to be in place before a project commences is referred to as a prerequisite.

The likelihood of these assumptions occurring should be analysed at the formulation stage and monitored throughout implementation, as these assumptions are decisive factors in taking corrective actions or modifying the work plan. Assumptions that are important but improbable are ‘killer’ assumptions that cannot be planned for. In such cases the project design should be changed, otherwise the project must be abandoned.

TABLE 1. EXAMPLE OF A LOGICAL FRAMEWORK MATRIX[a]

Objective: To implement an energy reform strategy			
Design element	**Indicator**	**Means of verification**	**Assumption**
Outcome: Improved energy planning	1. Systems and protocols in place by April 20xx for continued updating of models	Dept of Energy report to final review meeting	Energy demand/supply models are used in energy strategy. Strategy will be approved
Output: 1. A report on future energy requirements and options 2. A national database of projected energy demand and supply 3. Energy planners fully capable of energy modelling	1. Report completed by Nov. 20xx 2. Database covering all regions of the country developed by July 20xx 3. Four energy planners fully capable of using IAEA's energy models	Dept of Energy report Dept of Energy logbook for data collection Expert report	Report being used as basis for further energy planning Database being maintained and updated regularly
Activities: 1.1 To draft report 1.2 To collect data 1.3 To test run simulation models 1.4 To adapt model to country situation 1.5 To develop protocol for data collection 2.1 To train staff	1. Data collected for all regions by Jan. 20xx 2. Test run by Feb. 20xx 3. Training course completed, four energy planners trained	Dept of Energy status report; print-out of raw data sheets 1.2/1.3 Expert report 2.1 Report from training course director	All data included in database and checked for consistency Trainees retain and apply what they have learned
Input 1. Expert mission to set up database, test run, adapt model, train staff 2. Fellowships in simulation models 3. Training course 4. Software and computers		Work plan Budget	Data on existing energy sources available to the Dept of Energy Staff available

[a] LFM in accordance with Progamme Cycle Management Framework.

Completing the Project Document

Once all the analytical steps have been carried out and the LFM has been constructed, the formulation of the Project Document is straightforward. This includes the following:

Project documentation

The Project Document consists of a number, a body of description and analysis, the LFM, a budget and work plan. Table 2 shows which parts of the LFA may be used as a basis for the formulation of sections of the Project Document.

TABLE 2. COMPILING THE PROJECT DOCUMENT USING DATA FROM THE LFA ANALYSIS

Project Document section	**LFA step**
1. Project background and justification	
1.1 Problem statement	Situation analysis
1.2 Objective	Problem analysis
1.3 Linkages to CPF	Objectives analysis
1.4 Past and present country efforts to address the need	Situation analysis
1.5 Past and present support to the country by the IAEA in same field	Situation analysis
1.6 Role of nuclear technology	Situation analysis
1.7 Role of IAEA	Stakeholder analysis
2.1 National counterpart institutions/Stakeholders	Stakeholder analysis
2.2 End users	Stakeholder analysis
2.3 Partnership	Stakeholder analysis
2.4 Physical infrastructure	Stakeholder analysis
2.5.1 Environmental consideration	Situation analysis, problem analysis
2.5.2 Gender consideration	Situation analysis
3.1 Implementation strategy	Objectives analysis and alternative analysis, LFM assumptions
3.2 Implementation arrangements	Work plan
3.3 Monitoring and reporting	LFM, indicators and means of verification
4. Budget and work plan	Extented and more detailed plan based on LFM activities and input

Project work plan

A project work plan shows *how* and *when* defined project activities are to be carried out to achieve project objectives with *appropriate outcomes and outputs* (Fig. 11). The work plan is derived from the activities in the LFM, and, like the LFM, it is developed through an iterative process of testing, review and validation.

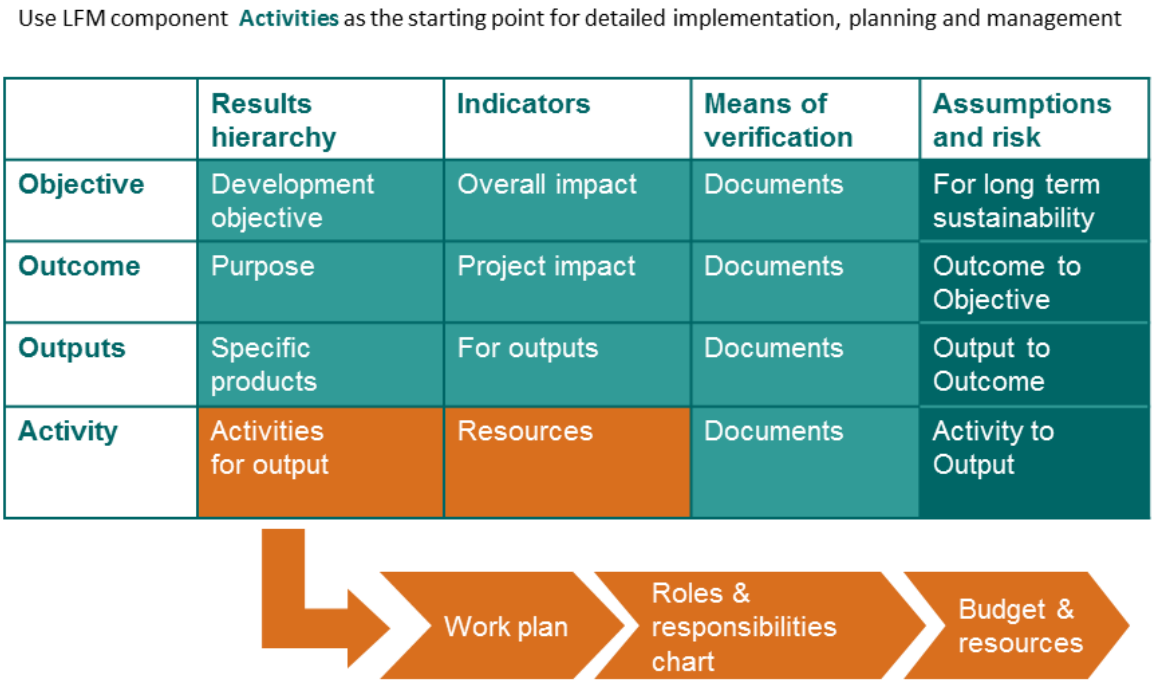

Fig. 11. From LFM to project implementation.

A good work plan is prepared for each output, linked to a specific outcome and focusing on concrete project activities (Fig. 12). It clearly indicates:

- What is to be done;
- When it is to be done;
- Who will do it;
- What will it cost.

The work plan should provide the basis for developing terms of reference for contracting out certain activities, as well as the direction for implementation of project activities and the application of necessary resources. The work plan identifies IAEA activity inputs such as (1) procurement, (2) experts, (3) meetings, (4) scientific visits, (5) fellowships, (6) training courses and (7) subcontracts.

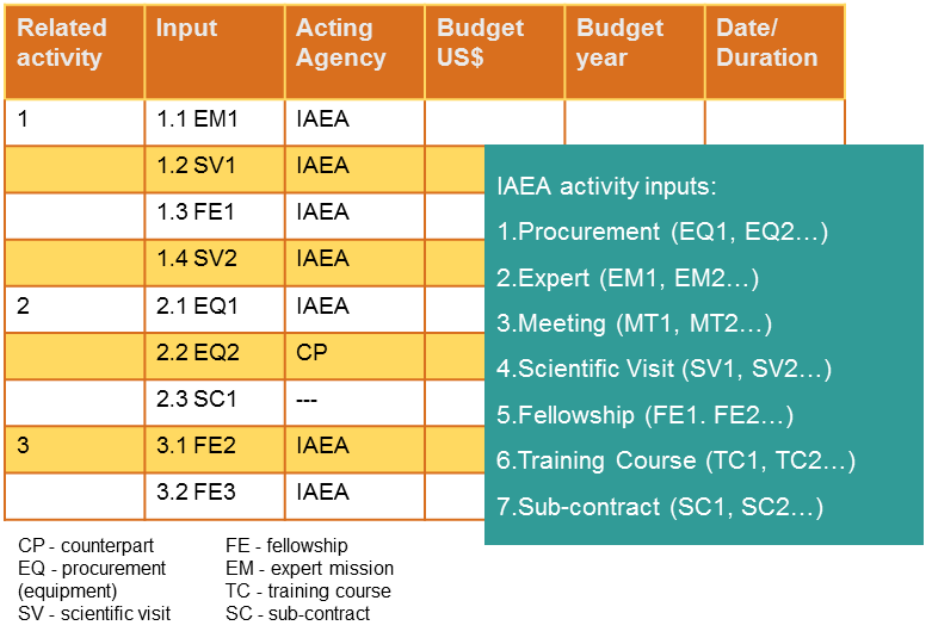

Fig. 12. Building the work plan.

Good project design: Key elements

Technical merit

- The project utilizes the best available technology, practice or state-of-the-art approach to address the problem (within the available budget and time).
- The project is likely to advance the technological status base within the field of activity covered.

Implementability

- A realistic budget to implement the project has been determined that takes into account both IAEA and national government input, and that considers phasing, interconnections, recurrent costs, assigning value, and cost–benefits.
- The project's main counterpart has the necessary human and financial resources, competences and authority, and managerial and technical skills, as well as previous experience that substantiates its capability to lead the project to achieve its objectives. If additional management support is necessary, this need is addressed by the Project Document and work plan.
- The roles, responsibilities, links and lines of authority between participating partners are clearly defined.
- A competent, well dimensioned project team has been envisaged.
- The agreements between the project partners are formalized.
- Provisions to follow up, monitor and report on progress and results are included.
- Contingency provisions have been included that address the project assumptions and risks.

- Broad plans for using project outputs to achieve outcomes are set up. For example, this may mean identifying extension services to disseminate to farmers a new variety of seed developed in the laboratory within the scope of a project on agricultural productivity.

Using the LFM to monitor and assess implementation

Good project design contributes to smooth implementation, effective monitoring, achievement of intended outcomes and increased sustainability. The LFM is a basic reference tool for monitoring, assessment and evaluation (Table 3).

TABLE 3: MONITORING USING THE LFM AS A REFERENCE POINT

Design element		Monitoring tool	Actions as a result of monitoring
OBJECTIVE Assumptions	→	Assessment	• Improve future TC planning (Lessons learned) • Report on project's contribution to higher level objectives at country level or theme level
OUTCOME Assumptions	→	Achievement report Self-assessment	• Country acknowledge project complete • Close project • Improve future TC planning • Contribute to 'good practices'
OUTPUTS Assumptions	→	Periodic progress report Work plan	• Inform partners about outputs attained • Validate or revise work plan, revise budget • Redefine project components, if required • In-depth project review, if required • Suspend project, in extreme case
ACTIVITIES Assumptions	→	Work plan	• Validate or revise work plan • Revise budget
INPUTS	→	Budget Financial reporting	• Revise budget • Re-phase budget

Critical factors for project success

In all phases of the project cycle, certain factors are critical to success:

- Team approaches to developing, implementing, and evaluating projects;
- Continuous communication and coordination to ensure appropriate progress monitoring and regular feedback to all major stakeholders throughout the entire process;
- An attitude of constructive engagement to ensure that even the most difficult of challenges has a reasonable chance of resolution.

Only by closely adhering to these basic principles will the project process outlined above have a chance of becoming a 'living reality'.

Appendix I
Project Document

Technical Cooperation (TC) Programme

NATIONAL PROJECT DOCUMENT
for the IAEA Technical Cooperation Programme 2012–2013

Member State _____

Project title:		
Project type:	National	
Field of Activity:	(to be selected from a drop down menu in PCMF)	
Names of counterparts and counterpart institution(s) involved, starting with the main counterpart, and contact details:	1	
	2	
	3+	
Project duration:	Total number of years:	Start date:
		dd/mm/yyyy
Funding:	IAEA funding:	$/EUR
	Donor extrabudgetary funding:	$/EUR
	Government cost sharing:	$/EUR
	Local cost:	$/EUR
	Total:	$/EUR

Signature: _____

(Name of NLO)

Title:

The title should be as concise as possible and should summarize the objective of the project.

Section 1 Project Background and Justification

1.1 Problem statement:

Provide a summary of the issue to be addressed by the project. This should be the result of a situation analysis to identify the problem and its cause and effect.

1.2 Objective:

State succinctly what the project is intended to achieve. Please state only one objective.

1.3 Linkages with the Country Programme Framework (CPF) and/or national development plans:

Describe how the project is linked to the CPF or the national development plan/programme and how it is embedded in the institutional strategy.

1.4 Past and present country efforts to address the need:

Summarize all past and present national efforts (programmes/projects) to address the issue to which the project will contribute.
What previous assistance has been provided and how does the project build on it? Explain any specific gaps that the project will address.

1.5 Past and present support to the country by the IAEA in the same Field of Activity:

Describe IAEA support received and results achieved.

1.6 Role of nuclear technology:

Indicate the specific nuclear technique that would be used, and outline why it is appropriate for addressing the issue. Is the technique the only one available to solve the problem? Does the technique have a comparative advantage over non-nuclear techniques? Does the technique complement non-nuclear techniques?

1.7 Role of the IAEA:

What specific role would the IAEA be expected to play in the project?

Section 2 Project Description

2.1 National counterpart institutions/stakeholders:

List all national institutions and stakeholders expected to participate in the project, specifying the role of each. Please enter the main counterpart institution and the responsible person first. This person would be in charge of the project at the technical level in-country.

2.2 End users:

Who will use/benefit from the results of the project (e.g. decision makers, service users, patients, farmers)?

2.3 Partnership:

List all external institutions and partners (e.g. other United Nations or international organizations, donors) expected to participate in the project, specifying the contribution of each.

2.4 Physical infrastructure and human resources:

What physical infrastructure and human resources are available to support the project? Examples include: existing laboratories, suitable buildings, staff that will be directly involved in this project and local logistics (i.e. transport for implementation of field studies/trials). List any national resource centres that would play a major role in the implementation of the project.

2.5 Cross-cutting aspects

2.5.1 Environmental considerations:

Indicate if the project has a potential positive or negative effect on the environment. This should cover aspects such as quality of air, water, land and ecosystem. In the case of a negative effect, indicate the proposed mitigation measures.

2.5.2 Gender considerations:

Indicate if the project will benefit both men and women. List any special considerations or responsibilities included in the project to ensure attention to gender aspects.

2.5.3 Safety regulatory infrastructure:

Indicate whether or not the safety infrastructure and associated standards and procedures at the institutional level are adequate to ensure that the project will be implemented in a safe manner. If not, specify the gaps and indicate how they will be addressed.

2.6 Logical framework:

Complete the logical framework matrix to ensure the identification of cause and effect relationships.

2.7 Risk management:

Describe risks that could affect the success and sustainability of the project in the short, medium and long terms, and indicate appropriate mitigation measures (e.g. any change in national policies, priorities, institutional restructuring affecting the mandate of the counterpart institution and reallocation of national resources).

Section 3 Implementation Strategy, Arrangements and Monitoring

3.1 Strategy:

What strategic steps will be taken to achieve the project objective and ensure sustainability? This section may include the role of partnerships, phased approach, synergy opportunities and interlinkages with other development programmes ensuring that results are disseminated and used.

3.2 Implementation arrangements:

Describe how the project will be carried out and indicate project milestones, if relevant. How will various stakeholders work together? For example, is there a steering committee, project management unit, national coordinator, etc.? List any conditions required before the project can start.

3.3 Monitoring and progress reporting:

For progress reporting purposes, describe existing or envisaged arrangements for monitoring project implementation and collecting information. Technical information/data should be included as attachments in the periodic progress reports and the project achievement report.

Section 4 Budget and Work plan

4.1 Project budget:

State any relevant information regarding the project budget, sources of funding and arrangements that pertain to Government contributions (in-kind contribution, cost sharing), IAEA contribution or partner contribution, if any.

4.2 Project work plan:

Complete the work plan and indicate below additional relevant information, if any.

Appendix II

Logical Framework Matrix (LFM)

The LFM can be entered into PCMF once the underlying analytical work is complete. The LFM below contains guiding interpretation for each design element.

Objective: The objective reflects the project's achievement in terms of its particular contribution towards a long term goal.

Design Elements with Guiding Interpretation		**Indicators**	**Means of Verification**	**Assumptions**
Outcome	The outcome is the direct effect of the project. It describes the desired state upon project completion as brought about by the changes in the capacities and performance of the counterpart institution (e.g. radiotherapy services providing quality treatment for cancer). The outcome is expected to be accomplished by the project's completion (or shortly thereafter). Usually a project has just one outcome.	The outcome indicators describe the desired characteristic of the outcome. They should include the planned target and baseline information. Indicators should be **SMART**: **s**pecific, **m**easurable (in quantity or quality), **a**chievable, **r**elevant, **t**imely/trackable.	The means of verification is the **source of data** for the outcome indicators. The source of data can be **external** (such as statistics from an independent source or a finding of a technical review) or **internal** (such as annual reports, laboratory records or the hard copy of a document itself).	The assumptions are the necessary positive conditions required for the objective to be achieved once the outcome is generated. This may include acceptance of outcome by users, government approvals and other external conditions.
Outputs	Outputs are the most direct result of the project. Usually their production is under the control of the project team. Typically, several outputs are required to generate one outcome (e.g. policies, agreements, products or services). An output is formulated as a **noun** that is qualified with a *verb* describing a positive change (e.g. 'An animal reproduction **database** *established,*' 'A draft **regulation** *prepared and submitted* to the national council').	The output indicators describe the specific desired characteristic of each output. They should include planned targets and baseline information. Also, output indicators should be **SMART**.	The **source of data** for the output indicators. It can be **external** (such as statistics from an independent source or a finding of a technical review) or **internal** (such as the annual report, laboratory records or the hard copy of a document itself). Examples of sources for the pre-project baseline information can be government reports and findings of earlier TC projects.	The necessary positive conditions required for the outcome to be generated once the outputs are produced (e.g. 'The national council for xx approves the new regulations').

Activities	Activities describe *how* the project is implemented. Typically, several activities are needed to generate an output (e.g. training of staff, drafting a protocol, commissioning a facility). An activity is formulated as an action. Examples are: 'Collect data to be stored in database', 'Identify gaps in current regulatory documentation', 'Prepare report on…'.	The activity indicators describe the quantity and quality of the activities. They should include the implementation milestones.	The source of data for the activity (e.g. a fellowship report, a pilot test report, an equipment installation report or similar documentation).	The necessary positive conditions required for the outputs to be produced once the activities are performed (e.g. provide database infrastructure; trained staff remains employed by the hospital).
Inputs	Project inputs are the services and resources provided for the project. Typically, several inputs are needed to carry out an activity (e.g. 'Expert support of one week to evaluate infrastructure', 'Provision of equipment', 'Granting of fellowship').	The input indicators describe the delivery of the input (e.g. expert mission implemented in 1Q2010).	The source of data for the inputs (e.g. financial statement, end of mission report, notification of equipment delivery, acceptance letter of fellowship). The project work plan should be used as a reference.	The necessary positive conditions required for the activities to be performed (e.g. 'The Fellow obtains a visa on time', 'Counterparts are available', 'Site ready').

Appendix III

Work plan for [concept number] by budget year

Activity	Input	Input Type (human resources, procurement)	Sub-type (e.g. Fellowship, Expert)	Funding (e.g. IAEA, Donor)	Budget	Budget Year	Start	End
1.1 ….								
1.2 …..								
2.1 ……								
2.1……								
3.1……								
Sub-total for 2012								
5.1…..								
5.2…..								
Sub-total for 2013								
……..								

List of resources

- Country Programme Note: http://pcmf.iaea.org/DesktopModules/PCMF/docs/UsefulLinks/noteverbale/CPN%20-%20Country%20Programme%20Overview.doc
- Generic outcome indicators;
- General Conference TC resolutions and Board decisions, which provide the guidance of Member States on a continuous basis;
- Note Verbale – Guidelines for 2012-1013 Programme Cycle: http://pcmf.iaea.org/DesktopModules/PCMF/docs/UsefulLinks/noteverbale/10-10521E.pdf
- Planning and design glossary: http://pcmf.iaea.org/DesktopModules/PCMF/docs/UsefulLinks/Planning_and_Design_Glossary_20100611.pdf
- Review criteria for project concepts;
- Review criteria for Project Documents;
- TC training material on project planning and design;
- The IAEA Statute: http://www.iaea.org/About/statute_text.html
- The IAEA Medium Term Strategy 2006–2011 (GOV/2005/8) (MTS): http://www-govatom.iaea.org/DocumentDetails.asp?Language=English&Path=f:\websites\govatom\govatomdocs\govdoc\2005\gov-2005-08\gov2005-8.doc
- The Revised Guiding Principles and General Operating Rules to Govern the Provision of Technical Assistance by the IAEA (INFCIRC/267): http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc267.pdf
- The Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the IAEA (RSA);
- The Technical Cooperation Strategy: The 2002 Review (GOV/INF/2002/8/Mod1) (TCS): http://www-govatom.iaea.org/DocumentDetails.asp?Language=English&Path=h%3A%5Cinetdata%5Cgovatomdocs%5Cgovinf%5C2002%5Cgov%2Dinf%2D2002%2D08%2Dmod%2D1%5Cginf2002%2D8mod1%2Edoc

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